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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,635	09/21/2001	Thomas A. Dundon		4263

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EXAMINER	
ROBINSON, MYLES D	
ART UNIT	**PAPER NUMBER**
2622	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/960,635	DUNDON ET AL.	
	Examiner	Art Unit	
	Myles D. Robinson	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 5, 7 - 9, 12 - 18, 21, and 22* is/are rejected.

7)☒ Claim(s) *3,4,6,10,11,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/15/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The examiner has considered the references listed in the Information Disclosure Statement (IDS) submitted on 2/15/2002 (see attached PTO-1449).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because it is unclear whether reference character "220" has been used to designate two different entities within Figure 2.

3. Furthermore, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "802" in Figure 15 and "804" in Figure 16. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. The following quotation of 37 CFR 1.75(a) is the basis of the objection:

> (a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

Claims 1 – 7 are objected to under 37 CFR 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Claim 1 recites the limitation "a physical medium" in line 3 of the claim after the limitation "a physical medium" was claimed in line 1 of the claim. The applicant has failed to particularly point out and distinctly claim if the applicant is referring to the same, instant "physical medium" or a unique and distinctly different "physical medium" within the claim. In search of prior art, it will be assumed that the "physical medium" is referring to the same, instant one. All claims dependent upon this claim suffer the same deficiency and, therefore, are objected to as well.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5, 7 – 9, 12 – 18, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Vallmajo *et al.*** (U.S. Patent No. 6,791,723 B1) in view of **Suzuki *et al.*** (U.S. Patent No. 5,027,288) and further in view of **Tsai *et al.*** (U.S. Patent No. 6,327,056 B1).

Referring to **claim 14**, Vallmajo et al. disclose an image processing system comprising at least one communications interface (see Fig. 4, communications device 450) capable of receiving information from an image capturing system (column 4, lines 55 – 57 and column 27, lines 13 – 21), at least one processor (see Fig. 4, processing unit 410), memory (see Fig. 4, memory 420) operably associated with said processor, a program of instructions capable of being stored in said memory and executed by said processor (column 27, lines 4 – 12 and 22 – 40), said program of instructions including instructions capable of storing, at least temporarily, a first captured image representative of an image formed in a physical medium (column 26, lines 60 – 64, column 27, lines 25 – 28), and storing, at least temporarily, a second captured image representative of the image formed in said physical medium (column 26, lines 60 – 64, column 27, lines 25 – 28) but does not explicitly disclose wherein said physical medium having a first orientation when said first captured image is captured, said physical medium having a second orientation when said second captured image is captured, and said program of instructions including instructions capable of analyzing captured images to identify portions of the captured images corresponding to imperfections in the physical medium, and forming a corrected image by removing, at least in part, the

identified portions of said captured images corresponding to imperfections in said physical medium.

Suzuki et al. disclose said image processing system (column 5, lines 49 – 63) wherein said physical medium having a first orientation when said first captured image is captured and said physical medium having a second orientation when said second captured image is captured (column 6, line 61 – column 7, line 10 and column 24, line 61 – column 25, line 46) but does not explicitly disclose said program of instructions including instructions capable of analyzing captured images to identify portions of the captured images corresponding to imperfections in the physical medium, and forming a corrected image by removing, at least in part, the identified portions of said captured images corresponding to imperfections in said physical medium.

Tsai et al. disclose said image processing system capable of analyzing captured images to identify portions of the captured images corresponding to imperfections in the physical medium (column 2, line 62 – column 3, line 47), and forming a corrected image by removing, at least in part, the identified portions of said captured images corresponding to imperfections in said physical medium (column 3, line 66 – column 4, line 11).

Vallmajo, Tsai, and Suzuki are combinable because they are all from the same field of endeavor, being image formation and recording systems with copying and scanning capabilities. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include an image processing system comprising at least one communication interface, at least one processor, and memory for image storage and

computer readable program along with an automatic document feeder (DADF) capable of positioning a physical medium in two distinct orientations. The suggestion/motivation for doing so would have been to allow for double-sided copying of the physical medium, as suggested by Suzuki et al. (column 7, lines 11 – 14). Furthermore, it would have been obvious to one of ordinary skill in the art to further include within the above combination instructions that uses plural images of a physical medium with defects to remove these defects through image processing. The suggestion/motivation for doing so would have been to produce a higher quality image correction as suggested by Tsai et al. (column 1, line 59 – column 2, line 4 and column 2, line 59 – 61).

Referring to **claim 18**, Suzuki et al. disclose the system wherein said second orientation is offset from said first orientation by a predetermined angle (column 6, lines 61 – 68). For double-sided copying, it is required that the second orientation of the physical medium, or the original, is offset from the first orientation of said physical medium about the axis of the planar surface of the physical medium at a predetermined angle wherein only side is exposed to light.

Referring to **claim 21**, Suzuki et al. disclose the system wherein said second orientation is offset from said first orientation by 180 degrees (column 6, line 61 – column 7, line 10). For double-sided copying, it is required that the second orientation of the physical medium, or the original, is offset from the first orientation of said physical medium about the axis of the planar surface of the physical medium at an angle of 180 degrees.

Referring to **claim 22**, Vallmajo et al. teaches a photo kiosk comprising an image processing unit and memory for the storage of image data and a program of instructions (column 27, lines 4 – 12, 25 – 28) but does not explicitly disclose capturing a third image representative of the image formed in the physical medium, said physical medium having a third orientation when the third captured image is captured.

Tsai et al. teaches an image processing system wherein two images, a primary image and an auxiliary image wherein both images are representative of the image formed in the physical medium, are captured for the detection and correction of defects within the document (column 2, line 62 – column 3, line 47) but does not but does not explicitly disclose capturing at least three images representative of the image formed in the physical medium, said physical medium having a third orientation when the third captured image is captured.

Suzuki et al. teaches an image recording apparatus comprising a DADF capable of double-sided copying, thus having to reposition documents from a first orientation to a second orientation about an axis of the planar surface of the document (column 6, line 61 – column 7, line 10 and column 24, line 61 – column 25, line 46). The obvious combination of the memory capable of storing image data and program of instructions taught by Vallmajo, the primary and auxiliary images taken for photo defect detection and correction taught by Tsai, and the DADF taught by Suzuki at the time of invention by one of ordinary skill in the art would yield four total images representative of the image formed in the physical medium, a set of primary and auxiliary images of the physical medium in the first orientation and another set of primary and auxiliary images

in the second orientation. Note that claim 22 does not require that the third orientation must be different than the first or second orientations.

Referring to **claims 1, 2, and 5**, the rationale provided in the rejection of claims 14, 18, and 21, respectively, are incorporated herein. In addition, the system of claims 14, 18, and 21 performs the method of claims 1, 2 and 5, respectively.

Referring to **claims 8, 9, 12 and 13**, the rational provided in rejection of claims 14, 18, 21 and 22, respectively, are incorporated herein. The said program of instructions stored within said memory and executed by said processor with within claims 14, 18, 21 and 22 executes the program of instructions of claims 8, 9, 12 and 13, respectively.

Referring to **claim 7**, Tsai et al. disclose the method of claim 1 further wherein the at least two orientations of the physical medium allow image data to be captured by the image capturing device that otherwise would be blocked, shadowed, or otherwise obscured by a defect or defects (column 2, lines 32 – 57).

Referring to **claim 15**, Vallmajo et al. disclose the system further comprising an image capturing system, said image capturing system capable of capturing representations of images formed in said physical medium and transmitting information associated with said captured representations through said communications interface (column 4, lines 55 – 57 and column 27, lines 13 – 21).

Referring to **claim 16**, Vallmajo et al. disclose the image processing system as discussed above but does not explicitly disclose wherein said image capturing system

comprises a media holder, said media holder capable of rotating said physical medium to position said physical medium in said first orientation and said second orientation.

Suzuki et al. disclose said image capturing system (column 5, lines 49 – 63) comprising a media holder (see Fig. 14, DADF 24), said media holder capable of rotating said physical medium to position said physical medium in said first orientation and said second orientation (column 6, line 61 – column 7, line 10 and column 24, line 61 – column 25, line 46). At the time of the invention, it would have been obvious to one of ordinary skill in the art to include an image processing system comprising a media holder capable of rotating a physical medium to position the medium in a first orientation and in a second orientation.

Referring to **claim 17**, Vallmajo et al. disclose the system wherein said image capturing system is a scanner (see Fig. 1A, scanner 12 and column 4, lines 25 – 51).

Allowable Subject Matter

6. **Claims 3, 4, 6, 10, 11, 19, and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to **claims 3, 10, and 19**, the innovative limitation that distinguishes the applicant's claims is the rotation of a physical medium through 90 degrees.

Referring to **claims 4, 11, and 20**, the innovative limitation that distinguishes the applicant's claims is the rotation of a physical medium through 120 degrees.

Referring to **claim 6**, the innovative limitation that distinguishes the applicant's claim is the third orientation different from both the first and second orientations.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakashima *et al.* (U.S. Patent No. 6,721,465 B1) disclose a non-contact image reader with a high degree of freedom and system that captures images in different orientations to perform image correction.

Mishima *et al.* (U.S. Patent No. 6,111,667) disclose an image processing apparatus that corrects deviations of respective positions or inclinations of a plurality of sheets and image forming apparatus that forms copies of corrected images.

Yano *et al.* (U.S. Patent No. 6,031,941) disclose a three-dimensional model data forming apparatus that captures images of an object and generates a two-dimensional image using a plurality of three-dimensional images.

Nakatani *et al.* (U.S. Patent No. 5,608,547) disclose an image forming apparatus having illumination direction altered for every plurality of readout operations with respect to one original in order to eliminate shadows.

Edgar (U.S. Patent Application Publication No. 2003/0118249 A1) discloses a method, system and software for correcting image defects within a physical medium through using multiple scans.

Potucek *et al.* (U.S. Patent 6,498,867 B1) disclose a method and apparatus for differential illumination image-capturing and defect handling using multiple light sources and scan directions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Myles D. Robinson whose telephone number is (571) 272-5944. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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